

# [AUGMENTING SURFACE ELECTRODE FOR PIEZOELECTRIC WORKPIECE]

## Abstract of Disclosure

Augmenting surface electrodes for piezoelectric workpieces together with the method for fabrication are disclosed for improving fabrication and operation reliability of the workpieces. A piezoelectric workpiece used for energy conversion between electrical and mechanical forms in a piezoelectric system comprises a body, a number of function electrodes, and at least an augmenting surface electrode. The body of piezoelectricity is used for implementing the energy conversion. The function electrodes are each fixedly attached to the surface of the body, and are connected in the electric circuit for implementing the energy conversion. At least one of the function electrodes has a shape with a contour of at least one acute angle. At least an augmenting surface electrode has a substantially elongated shape fixedly attached to the surface of the body proximate to the acute angle. Together, the augmenting surface electrode and the proximate function electrode thereof constitute a gross electrode that substantially cancels the acute angle when both are connected electrically to the same electric potential. The acute angle is cancelled during the polarization of electric dipoles of the body grain molecules so that the boundary region between different polarization orientation distribution regions can be smoothed. The reliability of the piezoelectric workpiece is improved both during the fabrication and during normal operation of the workpiece.

## Figures